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A STUDY OF THE LE CONTE'S THRASHER

Jay M. Sheppard

The Le Conte's Thrasher (*Toxostoma lecontei*) can be identified by its moderately decurved bill, medium size (9.5 in.), and plain gray-brown colors. The dark black-brown tail contrasts with the upperparts and more so with the paler underparts. The Le Conte's has a pale buffy crissum while its nearest two relatives, the California (*T. redivivum*) and Crissal (*T. crissale*) Thrashers, are larger and darker and have cinnamon (California) or deep cinnamon-rufous (Crissal) crissums. Fortunately, over much of its range the Le Conte's Thrasher does not come into direct contact with these two related species. After the summer molt (complete for adults and incomplete for young of the year), the body plumage is considerably darker than that found from November to July. There is no sexual dimorphism beyond possible minute differences in size.

The Le Conte's Thrasher inhabits some of the hottest and driest portions of the American Southwest. Elevation records vary from -280 feet (Death Valley, Bennett's Well) to about 5,250 feet (Panamint Mountains, Harrisburg Flats). Its distribution is local in many areas, but it includes the west side of the San Joaquin Valley (Coalinga to Maricopa), all of the Mojave and Colorado Deserts from Lone Pine, California, east to Beaver Dam Wash, Utah; south along the east side of the Sierras and coast ranges into northeastern Baja Califronia, and through western Arizona (Salome), the Gila River drainage (upstream to Florence and Picacho Peak), western Organ Pipe Cactus National Monument, and into northwestern Sonora to near Port Lobos. In Baja California the distribution extends over the mountains near Chapala, reaches the Pacific

Ocean at Lat. 29° N., and continues southward to Lat. 26° N. Three subspecies are known: *T.l. lecontei* Lawrence, 1851 – most of the Mojave and Colorado Deserts of southwestern U. S. and northwestern Mexico; *T.l. arenicola* (Anthony, 1897) – Baja California from Lat. 30° N. to Lat. 26° N.; and *T.l. macmillanorum* Phillips, 1964 – San Joaquin Valley, California. The differences among these populations are subtle and require calipers and freshly molted specimens for identification.

The Le Conte's Thrasher prefers an open desert scrub habitat. The soil types most often associated with this bird are sandy and often alkaline. The local topography is rarely of high relief, but rather it is smooth with little or no slope. The two plant groups very frequently associated with this thrasher are the saltbushes (*Atriplex*) and chollas (*Opuntia*). These plants can furnish ideal nesting sites as well as shade and feeding areas even though their height only occasionally exceeds 4.5 feet. The thrasher is most easily found at any time of year by playing tape recorded calls in areas where old nests have been found. These nests (see description below) last for several years and, as several are made each year by a pair, there are usually 6-10 old nests in a territory. In my study area near Maricopa, there are some heavily utilized saltbushes along the washes. In a distance of only 250 yards some 14-18 old nests can be found. However, Maricopa is part of an area of very high density (10 pairs/sq. mi.) in comparison to the densities found throughout most of the species' range (usually 0 to 5 pairs/sq. mi.). Creosote (*Larrea*) occurs over much of these desert areas but is rarely utilized by the thrasher for nesting or shelter.

The Le Conte's Thrasher enjoys mild winters with very little snow but contends with very hot and dry summers. Air temperatures throughout the distribution of this species have ranged from -1° F (Victorville, Calif.) to 134° F (Death Valley), but the normal seasonal range is about 28° F to 110° F for most Le Conte's Thrashers. In the lower portions of the desert (below 1,000 feet) the exposed ground surface temperature reaches 150° in the mid-afternoons of July and August. Rainfall varies from 1.78 in./year to about 7.5 in./year over the deserts inhabited by this bird. The Le Conte's appears to be most common in areas with 5-6 in./year, but is frequently found in the sandy alluvial fans below desert mountains or edges of river bottoms and alkaline dry lakes.

This thrasher is not known to drink water even when it is available in a few restricted areas on the desert. It must therefore use some means of coping with the hot, arid summer which does not upset the individual's water balance. Studies at Maricopa seem to indicate that activity is curbed

Color banded male atop a favored singing perch in study area.

Photos by Jay M. Sheppard, except as noted.

Photos taken at Maricopa, California unless otherwise indicated.

as the temperature reaches 95° – 100° F. During periods of higher temperatures the birds rarely move from one shady area to another but do remain quietly under a large shady shrub. Little or no feeding takes place during this time.

The food of the Le Conte's Thrasher consists almost wholly of arthropods. Scorpions, spiders, beetles, grasshoppers, and Lepidoptera larvae are the principal components of this diet. A few plant seeds and a small lizard (*Uta*) have been noted as well. Most of the food is obtained on the ground or by digging 2-3 inches into the substrate. This diet provides the only source of water for the thrasher. Upon several occasions I have seen this bird chasing grasshoppers in flight, but most of their attention is focused towards the ground. The young largely are fed Coleoptera and Lepidoptera larvae found in or near the root systems of the desert shrubs and grasses.

A favorite nesting site for the Le Conte's Thrasher along a small arroyo. In the center of the photograph is a clump of large saltbushes used five times in three years by thrashers.

Typical Le Conte's Thrasher habitat on the west side of the San Joaquin Valley, California. Saltbushes of two species are the only dominant plants present. The clump of bushes 15 feet in front of the vehicle was utilized twice by the thrashers in two years.

Le Conte's Thrasher at nest with a large beetle larva.

The nesting season normally extends from late January (perhaps earlier in Mexico) to early June. Three broods are often attempted with clutches usually of 3-4 eggs. Color banding of 350 Le Conte's at Maricopa has demonstrated that the adults are probably mated for life, utilize about 100 acres over a year's period, and need about 15 acres per pair for nesting territories. Incubation (by both sexes) requires 14-20 days, hatching of four eggs takes 20-36 hours, fledging from the nest starts after another 14-18 days, and the young leave their parents' territory at about four weeks of age. Nests, large twig assemblages neatly placed in tight quarters within the shrub, are usually located 26-38 in. above the ground in a large dense bush or cactus. The cup separates this nest from most others found on the open desert as it is typically quite large (3 in. across, 2-2½ in. deep) with some sort of padded lining. Other thrashers stop at a fine grass lining, but this species adds a distinctive layer of soft plant fibers, leaves, and often old bits of paper.

The Le Conte's Thrasher is a very territorial species through much of the year. The male's territoriality wanes somewhat during the summer when he is molting and while there are many young wandering through the territory. This diminution of territoriality also occurs during the later stages of each nesting. Defense of the territory seems to reach a peak from early December to early February from the responses to the tape recorder in my studies.

One year old color-banded male Le Conte's Thrasher in typical singing posture.

Le Conte's Thrashers on singing perch (above) and at nest (below) in saltbush. *Photos by Herbert Clarke.*

Le Conte's Thrasher at nest with Lepidoptera larva and another insect. Note the white lining typical of these nests, although more noticeable in this case. *Photo by Arnold Small.*

Most early observers commented on this bird's shyness and wariness. My own studies indicate that this varies with the season and individual. One pair at Maricopa would not allow me to approach closer than 100 yards to the nest, even in a car, during one nesting season. Two years later this very same pair permitted me to stand openly next to their nest as they came and departed. The nest could be easily touched from my position. Many thrashers have thoroughly inspected my camper from top to bottom in their attempts to locate the "intruder" singing from the tape recorder.

The song of the Le Conte's Thrasher is one of the finest I have heard. Although similar to the California and other thrashers, it can often be distinguished by a few high pitched wrenching notes interspaced from 10 to 30 seconds in the song. One sequence may last from 15 to 200 seconds. The song is literally a conglomeration of phrases of other birds' songs and calls and often modified into a very warbling mimid song. Phrases are rarely repeated in sequence but often occur at later times in

Typical Mojave Desert habitat of the Le Conte's Thrasher. Note the scattered spacing of most of the vegetation. Creosote bush, cholla, and Joshua trees are the dominant plants. Beaver Dam Wash, Utah.

one song. Individual thrashers mimic the common birds' sounds of their immediate area causing both individual and geographic variability. Singing usually takes place in the winter and spring and in the early morning and again just after sunset. The call notes are heard at any time. One is a clear whistled *whit,* rising at the end; other calls include a double-noted whistle *tu-weeep.* The singing and calling can be heard up to 1,000 yards away and are often uttered from the top of a low bush or cholla.

In general behavior, the Le Conte's Thrasher is quite definitely a terrestrial species. It will fly when pursued or to cross a deep arroyo, but generally it is found running swiftly among the desert shrubs along a small wash with its dark tail held high. Even when flying it rarely gets above the tops of the scattered vegetation. It will use a fence post for a perch, but rarely goes higher. This thrasher has always impressed me with its propensity for ducking behind vegetation even when it seemingly has not been alerted to my nearby presence.

In brief summary, the Le Conte's Thrasher has a seemingly typical passerine life, but it has become well adapted to the desert environment. Some of these adaptations include an extended breeding season with an early start and a behavior pattern evolved to cope with high summer temperatures and low humidity. The Le Conte's utilizes an open scrub desert frequently with a sandy, alkaline soil, saltbushes and/or chollas as some of the principal vegetation, and an annual precipitation of 5-6 in. Areas with irrigation or other disturbing influences are not areas where the thrasher will be found. Persons looking for this species should investigate the Taft-Maricopa area of the San Joaquin Valley, the areas around Mojave and Cima, California; the west slope of the Beaver Dam Mountains, Utah; and undisturbed portions of the Gila River bottoms near Phoenix, Arizona.

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THE BLACKPOLL WARBLER IN CALIFORNIA

Guy McCaskie

INTRODUCTION

The American Ornithologists' Union (1957) indicates the Blackpoll Warbler (*Dendroica striata*) migrates from its extensive breeding grounds in Alaska and Canada to its winter range in South America via the West Indies, and returns by the same route. The only record cited for the southwestern United States and northern Mexico is an accidental occurrence in New Mexico (Fort Webster). In recent years the Blackpoll Warbler has been found regularly in small numbers in California. A total of 238 had been reported by the end of 1969, and all but one of these were reported during the last eight years. The vast majority (93%) occurred during the fall (late August to mid November) with only 17 being reported in the late spring and summer (mid May to early August). The peak occurred between 24 September and 8 October, with 50% of the autumn records falling within these two weeks (fig. 1). An analysis of the records is therefore in order.

SPRING RECORDS AND DISCUSSION

The majority of the few spring records are from the Southeast Farallon Island, San Francisco County (9), and Point Reyes, Marin County (6), but there is one record for Point Loma, San Diego County (21 June 1966), and another for Imperial Dam, Imperial County (15 May 1955). All the spring birds have been identified as to sex (most by plumage), and all were males except three from the Farallons (22 June 1965, 3 June 1969, and 1 August 1969), one from Point Reyes (21 June 1969), and the one from Point Loma. This high percentage (70%) of males cannot easily be explained, but it may be the result of dealing with a sample of insufficient size. Tenaza (1967) reports on the condition of the testes of the males collected on the Farallons, which indicated the birds were in breeding condition.

This species is a late spring migrant in the east. Lowery (1960) states it occurs in Louisiana between 13 April and 13 May; Bull (1964) reports it passing through the New York area between early May and mid

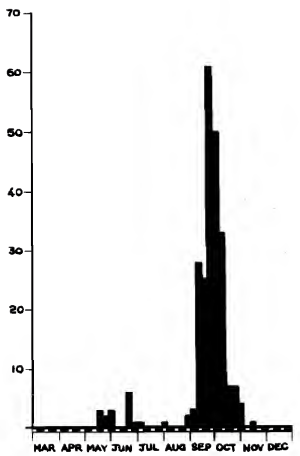

FIGURE 1. Seasonal pattern of Blackpoll Warbler records in California.

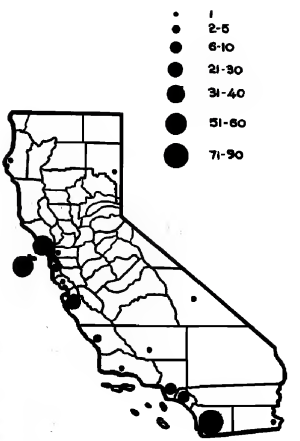

FIGURE 2. Distribution by counties of fall Blackpoll Warblers in California.

June, with the maximum numbers present in mid May; Gabrielson and Lincoln (1959) indicate it arrives in Alaska during the last week of May, and report eggs found on 10 June. In all probability birds should be on their breeding grounds by June if they are to nest successfully. The lateness (70% in June and later) of the California spring records indicates these birds cannot reach the breeding grounds in time to nest successfully, if indeed, they ever do reach the nesting grounds.

In spring Blackpoll Warblers appear to be much more numerous along the central coast of California than farther south (88% of the records are from the Farallons and Point Reyes). This would suggest the birds are not following the coast northward from the wintering grounds in South America. They are conceivably lost individuals wandering westward after having turned westward from their normal migration route at a latitude too far south to put them into their regular breeding range.

FALL RECORDS

The fall records are primarily from along the coast, with single interior records from Litchfield, Lassen County (23 September 1961), Mahogany Flat in the Panamint Mountains, Inyo County (15 September 1961), Morongo Valley, San Bernardino County (31 October 1965), and near Bard, Imperial County (27 October 1968). Along the coast most of the records (82%) are from the well-worked areas of San Diego, Monterey and Marin Counties, and the Farallon Islands, but there are enough additional records to indicate that individuals occur along the entire coastline (fig. 2). When the San Diego area is compared with the other well-worked areas, it is evident that the Blackpoll Warbler is more numerous along the southern coast of California than farther north.

Nine of the 12 fall specimens have been sexed, and both sexes appear to be equally common (five males and four females). Of the 58 birds aged (10 as specimens and 48 by checking the skull ossification of live birds) 55 (95%) were immatures. The three exceptions were two banded on the Farallons (31 August 1968 and 23 October 1969), and one banded on Point Reyes (27 September 1968). Thirteen individuals from the coast have been weighed, and the mean weight is found to be 11.8 grams (range 9.5 to 14.7 grams, with a standard deviation of 1.44). Forty-two individuals from the Farallons have been weighed, and the mean weight is found to be 11.4 grams (range 9.3 to 14.0 grams, with a standard deviation of 0.95).

The number of records has steadily increased each fall since the 1961 bird was discovered, but there is still some variance in the numbers present each year (fig. 3). The steady increase is due to a number of factors. More people are aware of the field marks of the fall plumaged Blackpoll Warbler and are specifically looking for these birds at likely concentration points along the coast. The Southeast Farallon Island has been manned as an observatory and banding station since 1967 and permanently manned as such since 1968; the vast majority of the birds landing there are seen, if not caught, and lost land birds are no doubt attracted to it from appreciable distances. There are also recently established permanent banding stations on Point Reyes (Point Reyes Bird Observatory) and Point Loma (home banding stations of Alan Craig and Virginia Coughran); numbers of Blackpoll Warblers have been seen and/or captured in both of these areas.

Bearing in mind the steady post-1961 increase in the number of observers looking for Blackpoll Warblers, it is apparent in figure 3 that exceptional numbers were recorded in the fall of 1964 and 1969 (author

saw 19 and 14 individuals, respectively) while in the fall of 1963 this species was quite scarce (author saw only 3 individuals). Numbers occurring each fall may reflect breeding successes of the preceding summer; in years when many young are raised we may have larger than normal numbers occurring on the California coast. Weather conditions between California and the northern part of the Blackpoll Warbler's usual migratory path may also influence the number of individuals which reach the state.

There are a number of active observers concentrated along the coast, especially during the fall, and this no doubt has a definite bearing on the number of records for that area. But this alone does not account for the high percentage (98%) from that area if Blackpoll Warblers were evenly distributed throughout California. The coast always has a concentrating effect on night migrants, including the Blackpoll Warbler, since those individuals located over the ocean at dawn attempt to return to the coast, thus putting all the birds present in a rather wide belt along the coastal waters into a narrow coastal land strip. However, aside from this concentrating effect, there is enough field work being done at inland localities to demonstrate that the species is truly extremely rare away from the immediate vicinity of the coast.

DISCUSSION

Blackpoll Warblers avoid most of the United States in fall (fig. 4). Birds from the western portion of the breeding range apparently head eastward, arriving on the Atlantic in the northeastern United States. Nisbet, Drury, and Baird (1963) presented very convincing evidence to support the theory that these birds stop to build up their fat resources in New England, then fly non-stop over the water to South America. Murray (1965) argued against this theory, and proposed that the birds followed the coastal area southward to the southeastern United States, then turned toward South America. It may well be that some individuals do fly non-stop from New England to South America, while others follow the coast southward for some distance before heading out over the ocean to South America. Either way, the birds have to make a trans-oceanic flight at some point along the route.

It would appear that adults are quite prevalent in samples from New England, but the percentage of adults present diminishes farther south along the coast. A sample from Bermuda had a high percentage of adults (an indication these birds are not lost), but a sample from Michigan has an unprecedented high percentage of immatures. Nisbet

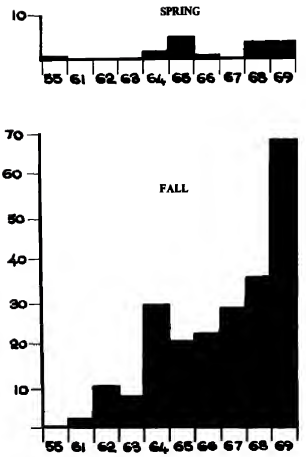

FIGURE 3. Annual pattern of Blackpoll Warbler occurrence in California with the spring and fall records shown separately.

FIGURE 4. Range of the Blackpoll Warbler with the breeding range shown in black, the winter range shown shaded, and the normal fall migration route indicated by heavy arrows and cross hatching.

et al. (1963) reported 61% of 1,832 Blackpoll Warblers at Round Hill in eastern Massachusetts were adults in 1962; 42% of 123 at Drumlin Farm in eastern Massachusetts were adults in 1961, and 64% of 54 were adults in 1962; 18% of 55 in coastal New England were adults between 1959 and 1961; 19% of 78 at Island Beach, New Jersey, were adults in 1962; and 58% of 136 at Bermuda were adults in 1962. Murray (1966) reported 9.6% of 658 at Island Beach were adults in 1963, and 5.7% of 87 in Michigan were adults.

Murray (1966) indicates there is little variance in the weights of Blackpoll Warblers from the northeastern portion of the United States at a given time in fall, but that there is a trend toward an increase in weight in the latter half of the migration period. He indicates the mean weight of a sample (85) of immatures from Michigan to be 12.7 grams (range

11.2 to 17.9), a sample (552) of immatures from New Jersey to be 11.4 grams (range 8.8 to 21.9), and a sample (707) of immatures from Massachusetts to be 12.1 grams (range 9.3 to 21.5). None of these birds should have recently completed long non-stop over-water flights.

In California Blackpoll Warblers are setting a regular pattern in their occurrences, and they are appearing in large enough numbers to suggest that this regular occurrence may be normal. If they are following a definite migration route they would have to remain on it from the breeding range to the winter range, and there should be a scattering of records along its entire length to document this. It is then worth investigating some of the proposed ways by which Blackpoll Warblers may reach California.

RANDOM SCATTERING

If a small percentage of the population of Blackpoll Warblers scatter randomly from the breeding grounds rather than follow the normal migration route, we could expect individuals to occur almost anywhere. The numbers present in any given area should decrease functionally to the distance from the breeding range due to a fanning out effect. The coast will, however, always have a concentrating effect, resulting in an increased number of records from that area. The Blackpoll Warbler must be one of the most numerous of the Parulidae. If the birds are reaching California by random scattering we could reasonably expect a few individuals to occur anywhere outside their normal range and migration route, especially when we consider the numbers found as far from the normal range as San Diego. So far, the Blackpoll Warbler has remained unrecorded in Washington, Oregon, and the southwestern states, except California, during the fall.

WEST COAST MIGRATION ROUTE

If some of the Blackpoll Warblers from the northwestern portion of the breeding range were to follow a migration route south along the west coast, we would expect a high percentage of the records to come from the coastal areas. The species would have to occur in the coastal regions to the north of California in numbers equal to, or exceeding, those found on the California coast, but, to date, there are no fall records for Oregon or Washington. The birds would also be expected to proceed southward along the coast, but DeSante (pers. comm.) was unable to find a single individual during his four months' stay in the Cape Region of Baja

Fall plumaged Blackpoll Warbler *Dendroica striata*, 19 September 1965 (left), and (right) an adult female, 21 June 1966. Both birds mist netted, Point Loma, San Diego.

Photos by Alan M. Craig

California, Mexico, in the fall of 1968, even though he was looking for vagrants.

The species should be more numerous in the Point Reyes – Farallon Island area than in the San Diego area, since it is farther north, but the reverse appears to be true (52% of the records from these three localities are from San Diego). Also, one would expect to encounter adults along any normal migration route, but most of the birds aged are immatures, and there is a strong possibility the three individuals reported as adults were also immatures (ageing live birds is subject to error, especially in the late fall).

DIRECT LINE FLIGHT

Another possibility is that some of the Alaskan birds are making a direct over-water flight from the breeding grounds southeastward to the coast of California, and then proceeding onward to South America. This would explain the lack of records from the area north of California. We would expect many of the California birds to be low on fat resources after the long flight. However, the samples (13 and 42) of Blackpoll Warblers from the coast of California have mean weights falling between that of the Massachusetts sample and the New Jersey sample, which would indicate they had not made any long non-stop flights.

In addition, Blackpoll Warblers would be expected to continue on the direct line course, thus crossing Mexico. Eisenmann (1955) refers to the only fall record for Mexico (Tehuantepec City, Oaxaca, on 19 October 1896).

DRIFT

Paxton (1967) pointed out that many such vagrants as the Blackpoll Warbler appear on the coast when there are high pressure areas, with their accompanying east winds, centered over the northern Great Basin. The northern Great Basin is outside the normal range of the Blackpoll Warbler, and there are few if any records for that region in fall. Any Blackpoll Warbler being drifted toward California under these weather conditions is already outside its normal range and off course. Drift no doubt helps some individuals reach the west coast, but it is doubtful whether this is the sole factor involved in placing these birds there.

"MIRROR IMAGE" REVERSED MIGRATION

A number of authorities have indicated a small portion of the population of some species heads in a direction 180° to the appropriate direction for the time of year. Lack (1963), Drury and Keith (1962), and Drury and Nisbet (1964) have all reported detecting reverse movements with the aid of radar. Dolnik and Shumakov (1967) reported two species (Scarlet Grosbeak *Carpodacus erythrinus* and Barred Warbler *Sylvia nisoria*) they tested in Kramer cages had a strong tendency to reorient in the reverse direction, as well as the correct direction. Nisbet (1962) suggested reversed migration was the means by which some of the southeast European species reach Fair Isle (situated off the north coast of Scotland) in the fall. Baird, Bagg, Nisbet, and Robbins (1959) and Nisbet (1962) associate reversed migration with high temperatures in the fall, but Evans (1968) detected this type of movement from three birds being oriented in Kramer cages in normal British fall weather. A typical example of a species reaching California by reversed migration would be the appearance of Tropical Kingbirds (*Tyrannus melancholicus*) in fall.

Rabol (1969) discussed four Old World warblers, (*Phylloscopus inornatus, P. proregulus, P. trochiloides,* and *P. borealis*), which breed in northeastern Europe and northern Asia and migrate first eastward then southward in fall (their migration route is analogous to that of the Blackpoll Warbler). He discussed the appearance of these species in Great Britain during the fall and concluded that their appearances were

due to reversed migration in a westward direction by a part of the population of each species. If this same phenomenon occurred in the Blackpoll Warbler population we would expect a concentration of records from British Columbia.

Normally, Blackpoll Warblers migrate eastward (primarily ESE) and then southward (primarily SSE). If some individuals were to migrate on a mirror image of this route, that is, first *westward* and then southward, they would conceivably reach the Pacific Coast in California. (The plane of reflection of this image would be on a north-south axis). Continuing this mirror image reversed migration route, the birds would fly southward, with many following the coast for some distance before heading out over the Pacific. This type of movement could well account for the presence of Blackpoll Warblers on the coast of California during the fall, and could account for the fact that there are no records from the areas to the north or south of the state. This also accounts for the concentration of records from the coastal areas and could be used to explain the variance in numbers between localities along the coast. Immatures would be expected to be predominant since none would be expected to survive to repeat the feat the following year.

SUMMARY

All the information available on the 238 Blackpoll Warblers recorded in California through 1969 is summarized. The majority of the birds are immatures occurring in the fall at coastal localities. The normal fall migration route, and the condition of the birds found along this route, are briefly discussed. Five proposed ways by which Blackpoll Warblers may reach California are indicated, and the theory that some follow a route that is a mirror image of the normal fall migration route is proposed.

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NOTES

A WARBLING VIREO WINTERING IN CALIFORNIA

On the morning of 13 December 1969 I observed a Warbling Vireo (*Vireo gilvus*) in the back yard of my home on Canon Drive in Santa Barbara, Santa Barbara County, California. The bird was observed regularly between this date and 12 March 1970, and was photographed (fig. 1). The bird was frequenting the magnolia and oak trees as well as several elderberry bushes situated in my yard, which is located near a creek edged with many oak trees and a few sycamore trees together with much cultivated shrubbery.

The Warbling Vireo breeds through most of the contiguous 48 states and well north into western Canada. It migrates south, wintering from southern Sonora and Veracruz to Guatemala and El Salvador (A.O.U., 1957). There does not appear to be any previous documented record of a Warbling Vireo successfully wintering in California, or for that matter, in the United States. Most have left California by the end of October; however, there are a few scattered reports for November. Norris reported one present in Berkeley, Alameda County, from 12 to 19 December 1951 (Condor, 54:116, 1952), and Atwood, Mancke and Suffel reported one present in Arcadia, Los Angeles County, from 22 to 28 December 1968 (Audubon Field Notes, 23:522, 1969). Miller reported hearing one singing at Inverness, Marin County, on 19 February 1959 (A.F.N. 13:319, 1959). The

FIGURE 1. Warbling Vireo *Vireo gilvus* photographed in Santa Barbara during the winter of 1969-70. *Photo by Richard Webster.*

earliest arrival dates for spring migrants in California are one reported by Dunlap at Carmel, Monterey County, on 1 March 1953 (A.F.N. 7:233, 1953), one reported by Lyons in Los Angeles, Los Angeles County, on 4 March 1966 (A.F.N. 20:460, 1966), and one reported by McCaskie at Yaqui Wells, San Diego County, on 4 March 1967 (pers. comm.). A few are normally present by the last week of March, with many passing through the state in April.

Elsewhere in the United States records of Warbling Vireos during the winter period include one reported by Sprunt in Royal Palm Park, Florida, on 7 January 1917 (Florida Bird Life, 1954), and single birds reported by Phillips, Marshall and Monson in the Baboquivari Mountains, Arizona, on 23 February 1945, and near Phoenix, Arizona, on 17 February (year ?) (The Birds of Arizona, 1964). All three are on the basis of sight records unchecked by this author. It is interesting to note that only four individuals have appeared on Christmas Counts (a somewhat dubious source for records of unusual nature) in the last 15 years: two from Texas in December 1964 (A.F.N. 19:286 & 293, 1965), one from Santa Barbara, California, in December 1966 (A.F.N. 21:379, 1967), and one from San Diego, California, in December 1968 (A.F.N. 23:424, 1969). *Richard Webster, 179 Canon Drive, Santa Barbara, California 93105.*

A BREEDING RECORD FOR SPOTTED SANDPIPER IN MONTEREY COUNTY

On 8 June 1970, while following the partially dry bed of the Salinas River, approximately four miles west of the town of Salinas, a Spotted Sandpiper (*Actitis macularia*) flew from a stretch of short open grass ahead of me and fluttered off, feigning a broken wing. A careful search of this area resulted in my finding one downy young; there were probably others, so well concealed that I failed to find them. Later in the morning two other Spotted Sandpipers were seen farther down the river, so it would appear that at least two pairs of these sandpipers were nesting here.

According to Guy McCaskie (personal correspondence) nothing has been published on the breeding of Spotted Sandpipers in California since the publication of The Distribution of the Birds of California by Grinnell and Miller in 1944. Grinnell and Miller indicate the Spotted Sandpiper breeds south to Sonoma County on the coast, but also cite Santa Paula, Ventura County, as one of the southern nesting localities. The basis of the Santa Paula nesting records is a set of three eggs taken by B. Ruggles near Santa Paula, Ventura County, in May, 1892, and another set of three taken by M. Richardson in the same locality in May, 1900 (Willet, Pac. Coast Avif. no. 21:61, 1933). It would appear from this that the Spotted Sandpiper might be expected to nest anywhere along the coast where suitable habitat exists; however, specific records to back this up are lacking. *Thomas D. Burleigh, 1242 Sylvan Road, Monterey, California.*

FOUR THICK-BILLED MURRE RECORDS FOR MONTEREY BAY

On 27 August 1964 I identified a living adult female Thick-billed Murre *Uria lomvia arra,* which had been delivered to the Pacific Grove Museum of Natural History by Patrick McGreal of Sacramento, California. The bird had been found on the local beach in weakened condition with oil on its plumage. Incomplete molting had left the flight feathers badly worn. The white maxillary marking was clearly visible and bill measurements left no doubt as to identification of this bird. To my knowledge this was the first record of the species on the West Coast of the United States south of British Columbia, a range extension of over 10^{o} latitude beyond its previous casual southern record. There are no known records for the States of Oregon or Washington.

A second Thick-billed Murre specimen, that of an immature male in winter plumage was found dead on the Monterey Beach on 22 February 1965 by Helen A. Lind, Assistant Curator of the Pacific Grove Museum of Natural History. The head markings lacked the post ocular line of *Uria aalge* and the dark feathers of the crown extended to the auricular region, there blending to the throat. The white bill marking was less clearly discernible than in the first specimen. Though the bill shape indicated a Thick-billed Murre, bill measurements did not fit perfectly with Ridgway's key in Birds of North and Middle America (part 8, p. 719, 1919). Because these two records represented a considerable range extension, the specimens were sent to Dr. Robert Storer of the University of Michigan who confirmed the identifications.

The following are the measurements (in millimeters) of the adult female and immature male (respectively) Thick-billed Murre specimens from California: total length 445, 431; wing chord 200 (worn), 214; chord of culmen 41, 40; depth of bill at gonydeal angle 15, 13; tarsus 38, 35; gonydeal angle to bill tip 22, 20.

Subsequently two sight records of Thick-billed Murres have been recorded for Monterey Bay. The first healthy bird was an adult in summer plumage found just outside the Monterey Marina on 2 October 1966 by Ellen Stephenson of Pasadena, California. It was later photographed and observed by numerous individuals. The second healthy bird, also an adult, in summer plumage, was found by myself on 9 April 1968 approximately 10 nautical miles north of Pt. Pinos in Monterey Bay. This bird was then viewed by five boat loads of observers. The above records were published in Audubon Field Notes (19:73, 1965; 19:413, 1965; 21:74, 1967; and 22:572, 1968, respectively).

The occurrence of four records in four years leaves one to speculate that the Thick-billed Murre is probably a regular southern straggler and that additional observations may be expected. Reasons have been advanced for the appearance of Thick-bills in Monterey Bay. The most plausible is suggested by Dr. Storer, that these birds probably followed migrating members of the northern race of Common Murre, *U. a. inornata.* That Thick-bills have not previously been recorded in this southern area must be due to their close similarity with the abundant Common Murre and the requirement for very close and careful observation to separate them in the field.

Both in the hand and in the field a decided similarity exists between Thick-billed and Common Murres. Ridgway's key separates the two species by length of

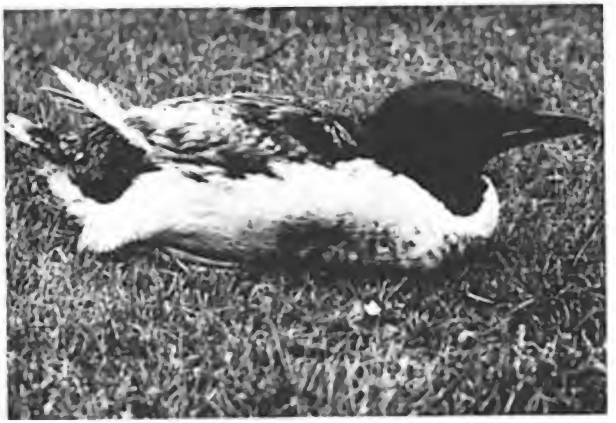

FIGURE 1. First California record of Thick-billed Murre *Uria lomvia arra*. Pacific Grove, Monterey County, California, 27 August 1964. *Photos by Vernal L. Yadon.*

FIGURE 2. The second California record of Thick-billed Murre, *Uria lomvia arra* (lower specimen) and a specimen of Common Murre, *Uria aalge californica*. Both specimens show white on the tomium which is atypical for *Uria aalge*.

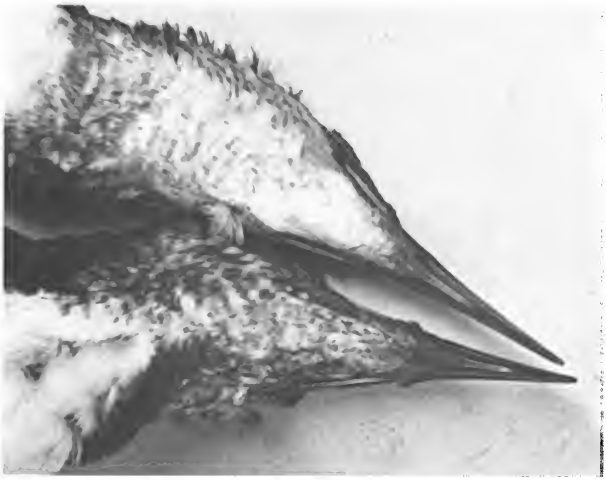

FIGURE 3. Ventral bill view of a Common Murre and a Thick-billed Murre (bottom) illustrating the greatly shorter dimension from the gonydeal angle to the bill tip in the latter species, which appeared in most of the specimens measured.

FIGURE 4. Adult Thick-billed Murre *Uria lomvia* at Monterey Marina on 3 October 1966.

Photo by Arnold Small

bill and depth of bill at the gonydeal angle. Where three times the depth is greater than the culmen length, one should have a Thick-billed Murre. However a summer plumaged Common Murre in the collection of the Pacific Grove Museum of Natural History shows there are exceptions to the key. Typical Thick-bills have a white line on the tomium and the upper mandible is more abruptly decurved at the tip.

About 80% of the Thick-billed specimens I have measured show a remarkably shorter distance from the gonydeal angle to the tip of the lower mandible. This measurement is about half that of Common Murres (approximately 20 mm as opposed to approximately 40 mm). The bill measurements of the other 20% converge. A representative tray of specimens will show great variability in bill lengths and depths.

In the field one should not report any bird as a Thick-billed unless a white tomium line was clearly seen and the bill shape studied. One hundred yards would be about maximum scope distance. Caution is indicated since specimen #753306 of the American Museum of Natural History, collected by R. H. Beck on 16 October 1912 looks very much like a winter plumaged Thick-bill, but its bill characteristics leave no doubt that it is the common species. In this specimen no post ocular line exists. Instead, the dark color of the crown extends below the eye, there blending to a light throat. Occasionally the Common Murre will also show light areas on the tomium.

These first records will eventually be deposited with the California Academy of Sciences. *Vernal L. Yadon, Museum of Natural History, Pacific Grove, California 93950.*

THE BROAD-BILLED HUMMINGBIRD IN CALIFORNIA

The Broad-billed Hummingbird *Cynanthus latirostris* is a fairly common and widespread species in Mexico whose range barely extends into the southwestern United States. It is a summer visitor from southwestern New Mexico (Cloverdale Mountains) to south central Arizona (Baboquivari Mountains) (A.O.U. Check-list, 1957); it has straggled as far east as west Texas (Chisos Mountains) (R. H. Wauer, pers. comm.). In Arizona it occurs between mid-March, occasionally the first week of March, to mid-September, occasionally to 1 October; one remained near Tucson to 4 December 1960 (Phillips et al., The Birds of Arizona, 1964).

There are now five records, involving six individuals, of the Broad-billed Hummingbird for California, and all have occurred between October and April. A male frequented a feeder at 3536 Sidney Place, San Diego, San Diego County, between mid-November 1961 and mid-March 1962 (Maureen Heraty, pers. comm.). and I was able to study it on 29 January and again on 18 February. Eleanor Pugh, Marie Manns, and I discovered a male in the Tijuana River Valley near Imperial Beach, San Diego County, on 14 October 1962. A male was frequenting a feeder in Redlands, San Bernardino County, between 2 January and mid-February 1964 (Mr. & Mrs. F. Adams, pers. comm.); it was photographed (fig. 1) by Ann Wissler on 2 February, and I was able to study it on 7 February. Richard Stallcup (pers. comm.) saw a male and female together in the Tijuana River Valley near Imperial Beach on 9 November 1963, and was able to give me an adequate description of both birds, which were feeding around tree tobacco *Nicotiana glauca* along Monument Road with other hummingbirds. Vernal Yadon (pers. comm.) saw a male circle around his patio in Pacific Grove, Monterey County, on 21 April 1969, and clearly noted the orange bill with dark tip, and turquoise blue throat and breast combination, and also the fact that it actively flicked its tail as it moved about.

My notes contain descriptions of the three individuals I saw. The one seen on 14 October 1962 was along 19th Street near the intersection of 19th Street and Monument Road in the Tijuana River Valley. It was alone, feeding around the yellow flowers of the tree tobacco, a plant that is common and widespread in the area. I was first attracted to it by its loud chattering call, reminiscent of the call of the Ruby-crowned Kinglet *Regulus calendula.* It was watched hovering at the yellow flowers and perched on the exposed limbs of the tree tobacco, and the following description was obtained:

> Primarily an irridescent green on the head, back, and underparts; chin and throat irridescent blue; under tail coverts white. A thin white line extended from just above the eye backward towards the ear coverts for a short distance. The tail was blackish and deeply notched, and was held slightly spread and flicked up and down when the bird was hovering. The bill was mostly red with only a little black on the tip.

I attempted to collect this individual, but missed. When shot at, the bird flew straight up into the air to a height of about 100 feet, then sped off to the north.

My notes indicate the bird present in San Diego between November 1961 and March 1962 was similar to the 14 October bird; however, there is no mention of the white behind the eye. This individual was seen by numerous observers, and was reported to have been photographed (Audubon Field Notes, 16:75, 1962). I am unable to trace anyone who has one of these photographs.

The individual present in Redlands in January and February 1964 was also similar to the 14 October bird; however, the white behind the eye may have been more prominent. Copies of two color slides taken by Ann Wissler are deposited in the San Diego Natural History Museum, and both clearly show the blue throat, green breast and belly, white under tail coverts, the white spot behind the eye, and the black tipped red bill.

One was reported on the San Bernardino Christmas Count of 27 December 1964 with the comments "regular at V. Y. feeder, photographed". The record lacks convincing details (it is not clear whether the bird was a male or female), and I learned the bird photographed was not this individual, but the one in Redlands in 1964. *Guy McCaskie, San Diego Natural History Museum, Balboa Park, San Diego, California 92112.*

FIGURE 1. A male Broad-billed Hummingbird photographed in Redlands, San Bernardino County, on 2 February 1964. The color transparency from which this picture was made is deposited in the San Diego Natural History Museum. The transparency clearly shows the throat area is blue, the breast and belly are green, the crown and side of neck are green, the under tail coverts are white, and the bill is bright red at the base. *Photo by Ann Wissler.*

A SHORT-TAILED ALBATROSS RECORD FOR WASHINGTON STATE

On 3 May 1970, at a point about 38 miles west of Westport, Washington, a Short-tailed Albatross *Diomedea albatrus* in sub-adult plumage was photographed at a "feed" of pelagic birds chummed in to a boat. The bird was not actually recognized as anything unusual by the birders present at the time, but was identified from a slide by Dr. George E. Watson of the Smithsonian Institution.

The circumstances of the record may be of interest, and serve to illustrate some pelagic birding problems. With nearly ideal sea and visibility we chummed in two Black-footed Albatrosses *Diomedea nigripes* which had been following a southbound freighter. We turned north being followed by these two birds coming up astern out of the sun. The chumming apparently attracted other albatrosses which began to show up quickly. One of these passed parallel to us, stern to bow, about 200 yards to starboard. I noted it with the naked eye, photographed it through a 540 mm equivalent lens with an Exakta split-image viewfinder (very unsuitable for use in identifying a bird subject), and saw it disappear ahead of us. At about this time 12 Black-footed Albatrosses approached our boat, some circling within ten yards, and most settling on the water to feed on our suet slick.

The color slide (fig. 1) shows a bird with light under-parts, dark breast-band, light face, lightish bill and feet, a dark smudge at the end of the tail, and dark under-wings with a few irregular small whitish spots. In general proportions it appears to be somewhat broader-winged than a Black-footed Albatross. The plumage appears to be intermediate between the all dark juvenile and the clean white bodied adult illustrated in Pough (Audubon Western Bird Guide, 1957). According to Palmer (Handbook of North American Birds, 1962) plumage characters and molt sequence information for age-groups between the immature and full adult is not known; hence, field identification of sub-adult birds is hampered.

Copies of the slide were sent to birders present on the trip, and, while Short-tailed Albatross was considered as a possibility, no identification was agreed upon. Later the slide was sent to George Watson, and his reply was as follows: "I have pondered over it at length because it offers enough problems to be disturbing. It certainly is not a Black-footed Albatross. The pale bill and feet cancel out that possibility. In addition, your photograph looks less chunky than the Black-foot, especially about the head and bill. The dark underwings with light under-parts rule out Laysan. A hybrid between the two (we have several specimens) with such pale underparts would have had white feathers showing on the underwing and dark bill and feet. That leaves one possibility, an immature Short-tailed Albatross, *Diomedea albatrus.* Only one of our *D. albatrus* specimens shows similar plumage to your individual. It has dark underwings, light gray underparts, a dark neck band and pale face and light bill and feet. This is probably a three or four year old bird." The slide was also shown to Dr. Alexander Wetmore, whose experience in the Pacific was extensive, and he concured with its identity as a Short-tailed Albatross. Copies of this slide are now deposited in the seabird file of the United States National Museum, and also in the San Diego Natural History Museum.

In the past 30 years there have been two additional records of the Short-tailed Albatross off the west coast of North America. An adult was seen about 70 miles off San Francisco, California, on 17 February 1946 (Traylor, Condor, 52:90, 1950), and an immature was seen and photographed about 32 miles west of Yachats, Ore-

gon, on 11 December 1961 (Wyatt, Condor, 65:163, 1963). Our regular charter-boat skipper has twice reported seeing white albatrosses "big as a swan" off the Washington coast in the past five years. Though Black-footed Albatrosses came right into the chum behind the boat this Short-tailed Albatross certainly did not, which might seem to confirm statements in the literature about the species not being a "ship follower". In addition to the significance of this sighting the record also shows the value of photography in cases like this. *Terrence R. Wahl, 3041 Eldridge, Bellingham, Washington, 98225.*

FIGURE 1. Short-tailed Albatross *Diomedea albatrus* photographed 38 miles west of Westport, Washington, 3 May 1970. *Photo by Terrence R. Wahl.*

[The Short-tailed (or Steller's) Albatross *Diomedea albatrus* is a very greatly endangered species. The information available on its breeding has been reviewed in detail in several sources (Austin, Pacific Sci. 3:283-295, 1949; Austin and Kuroda, Bull. Mus. Comp. Zool. 109:298-299, 1953; Greenway, Extinct and Vanishing Birds of the World, p. 144-148, 1967; Fisher, Simon and Vincent, Wildlife in Danger, p. 171-172, 1969). During the nineteenth and early twentieth centuries the species bred on eight or perhaps more small islands in the Japanese region (near Formosa, in the Ryukyu Islands, The Bonin Islands, perhaps the Volcano Islands, and the Seven Islands of Izu). The last known breeding in the Ryukyus was in 1930, in the Bonins in 1936, and today the species survives only on Torishima in the Seven Islands of Izu. During the first part of this century their numbers were reduced drastically by the fowlers and feather hunters on Torishima, and in 1939 and 1941 volcanic eruptions disturbed the breeding area of the few remaining birds.

After the war, Austin (op. cit.) believed the species extinct. No birds were seen on Torishima between 1946 and 1949. In the winter of 1953-54 the species was discovered and it has bred there ever since. In 1957 Torishima was made a special reserve and regular counts were conducted there from the winter of 1961-62 to the winter of 1964-65, a period during which a total of 42 young were reared (maximum 11 in 1965). The number of adults observed increased from 16 to 20 in the 1953-54 season to 52 in the 1964-65 season. In October 1965 an eruption forced the evacuation of the weather station through which the data had been obtained, and again threatened the species. However, in a spring 1966 aerial survey of the island 23 birds were observed on breeding sites.

The breeders are at the island at least between October and June. At sea these magnificent birds formerly ranged from China and Kamchatka to Alaska and south as far as Baja California (apparently only juveniles were observed at the southeastern limit of their range – Anthony, Condor 26:33-34, 1924).

There are very few probable or possible observations at sea recorded in the literature since the species' near extinction. In addition to the three records mentioned by Wahl we were able to trace only the following:

– Gulf of Alaska, 140 miles from Cape Spender en route for Cape St. Elias, 25 November 1947, (Kenyon, Condor 52:97-103, 1950); Kenyon saw a dark bodied albatross with a pinkish-white bill and conservatively considered that it could be an abnormally pigmented juvenile Black-footed Albatross *D. nigripes.*

– off northern Japan, 40° 04'N., 147° 55'E., 17 May 1951, seen and photographed by Commander G. S. Ritchie, R.N. and other officers and men of H.M.S. *Challenger* (Macdonald, Ibis 94:536-537, 1952; Macdonald and Lawford, Emu 54:7-28, 1954); very convincing description of a subadult in a region where both Laysan *D. immutabilis* and Black-footed Albatrosses were seen. Photographs were judged diagnostic by Macdonald although Greenway (op. cit.) felt they were inconclusive.

– off Japan, 200-300 miles south of Tokyo, and within 300 miles of Torishima, 4 December 1959, 17 February 1961, 30 March 1962 and 4 February 1966; total of six individuals, including adults and immatures (Tramontano, Condor 72:122, 1970). Both plumages were described and Laysan and Black-footed Albatrosses were at hand for comparison.

The editors are not competent to judge the validity of any records of this species. Its identification at sea is difficult since juveniles could be confused with aberrant Black-footed Albatrosses, adults with Wandering Albatrosses *D. exulans* or possibly with partial albino Laysan Albatrosses, and particularly subadults with hybrid Laysan X Black-footed Albatrosses. In the past, confusion has even arisen between adult Short-tailed and Laysan. Records such as those of Arnold (Auk 65:553-558, 1948, mentioned again by Macdonald and Lawford, op. cit.) or Gabrielson (Auk 61:110, 1944) can probably be explained in this way. – *PD, GMcC and JTC*]